Thomas Deschamps
30 years old (born January 19^{th} 1974)
single

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Experience

2002-2004: Postdoctoral fellow *Lawrence Berkeley National Laboratory, and University of California, Berkeley*
- Creation of a library for Fast Filtering and Segmentation of 2D & 3D images
- Development of applications to Microscope Imaging for Breast Cancer Analysis, to Fast Filtering of Electronic Microscopy images, to Blood-Flow Simulation in Arterial Stenoses and Aneurysms and to the Automatic Detection of Colon Polyps

1998-2002: Research Engineer / PhD student, *Philips Research France, Paris*
- Creation and implementation of an original method for Fast Extraction of Tubular structures in 3D medical images
- Applications to Visualization and Quantification of pathologies in arteries, colon and bronchi datasets

1998: Research internship - 6 month, *Philips Research France, Paris*
- Extension to 3D of a Minimal Path Tracker algorithm
- Development of a virtual endoscopy application (now commercialized)

1997: Research internship - 6 month, *Elf Geoscience Research Center, London, UK*
- Reservoir engineering: development and test of a new algorithm for optimization of the history matching process

Education

1998-2002: PhD Thesis, *University Paris-IX Dauphine* (Highest honors)
- Curve and Shape Extraction with Minimal Path and Level-Sets techniques
- Applications to 3D Medical Imaging

1997-1998: Master of Science, *Laboratoire CMLA, Ecole Normale Supérieure, Cachan* (Highest honors)
Mathematics, Artificial Intelligence, Vision and Perception, minor Image Processing

1994-1997: Bachelor of Science, *University Paris-IX Dauphine*
Applied Mathematics and Computer Science, (including one year of internships)

Skills

Applied Mathematics:
- Image Processing: Segmentation (Geodesic Active Contours), Filtering (anisotropic, reaction-diffusion, multi-scale)
- Artificial Intelligence (Neuronal Networks), Mathematical Morphology, Compression (wavelets), Statistics

Computer Science:
- Programming: C, object-oriented (C++ & Java), Scripting (Tcl, Python), GUI (Tk, Qt)
- Visualization: Volume/Surface Rendering (VTK, Geomview, POV-Ray)
- Misc: Environment Linux-UNIX-Windows, CVS, javascript, html, CSS

Languages
French mother tongue, English bilingual (living since 2001 in Berkeley), Spanish correct

International Publications

International Journals:
- Automatic segmentation of histological structures in mammary gland tissue sections, *J. of Biomedical Optics 2004*
- Fast evolution of image manifolds, application to filtering and segmentation in 3D Medical Images, *IEEE TVCG 2004*
- Fast surface and tree structure extraction of vascular objects in 3D medical objects, *Curves and Surfaces Design 2002*
- Grouping connected components using minimal path techniques, *Mathematics and Visualization Series, Springer 2001*
- Fast extraction of minimal paths in 3D images and application to virtual endoscopy, *Medical Image Analysis 2001*

International Conferences: 17 publications, including conferences
SPIE Biomedical Optics & Medical Imaging, ICCV, ECCV, ICPR, CVPR, MICCAI, EMMCVPR, CARS

Patents: 4 international patents in medical imaging for Philips Medical Systems

Referees

Pr. James A. Sethian, Mathematics Department, University of California, Berkeley

Pr. Laurent D. Cohen, CEREMADE, UMR CNRS 7534, University Paris-IX Dauphine